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Communicable Diseases Intelligence

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Contents:

VIRUS REPORTING SCHEME - A total of 1540 reports were received this period. Patterns suggested by the reports included the beginning of the seasonal rises in childhood rotavirus (73 reports compared with 46, 56 and 15 for the previous three periods), respiratory syncytial virus (28 compared with 10, 15 and 4) and parainfluenza virus (59 compared with 37, 22 and 8) infections. Twenty-two of the 28 parainfluenza type 1 cases were reported by the State Health Laboratory Services, Perth, of which 18 were in children with croup. The majority of the parainfluenza types 2 and 3 were reported by the Royal Children's Hospital, Melbourne. The OIC WHO Influenza Reference Centre, Melbourne, reported a similar preponderance of parainfluenza types 2 and 3 in university students during April.

. Alphaviruses - The 108 Ross River virus infections notified by Fairfield Hospital, Melbourne, were cases that had occurred earlier in the year which had been confirmed by the detection of IgM antibody by ELISA at Prince Henry Hospital, Sydney. The 21 other alphavirus reports (code 9901) included a 34 year old male (serum collected on 15 March) from King Island, Bass Strait, representing the first Tasmanian case this year.

. Flavivirus - Seven of the eight indigenous dengue type 1 cases reported by the Brisbane laboratory were of patients from the Townsville area. The eighth case was of a 56 year old female who lived in Atherton but who visited Cairns in March. Two of the flavivirus unspecified reports were also possible dengue infections in Townsville residents, and the third a probable Kunjin infection in a 36 year old female who had visited the Riverina area. The two other confirmed Kunjin cases were in patients from southern Queensland. The third Kunjin infection was in a 50 year old male who had been duck-shooting in the Barmah Forest on 3-4 March 1984. He became unwell with fever, sweats, chills and sore throat two weeks later, and was admitted to Shepparton Hospital on 15 March with a presumed upper respiratory tract infection. Four days later he became confused, restless, delerious and complained of severe headache. He was transferred to the Royal Melbourne Hospital on 20 March. On admission his temperature was 38.3°C with signs of delerium, lethargy but no focal neurological involvement. His condition deteriorated over the next 24 hours, and he developed severe

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CDI REPORTS - 1983

A total of 29224 reports were received by CDI for 1983 (up to 26 April 1984) compared with 27324, 19535 and 18908 for 1982, 1981 and 1980 respectively. A percentage separation of the reports together with corresponding figures for 1982 is given in Figure 1. Reports of the same organism collected on different dates, and of further identification of reports pending typing, were deleted whenever identified.

The greater number of reports in 1983 was due both to genuine increases in disease incidence (e.g. Mycoplasma pneumoniae and echovirus type 11), and to increased availability of diagnostic facilities with concomitant referral of specimens (e.g. herpes simplex virus, hepatitis B surface antigen (HBsAg) and Chlamydia trachomatis). Adenoviruses, influenza B virus, mumps, measles, Coxiella burneti, alpha- and flaviviruses were reported less in 1983. Genital infections (9034 reports) comprised 30.9% of reports, with 68.7% due to herpes simplex virus and 23.7% to C. trachomatis.

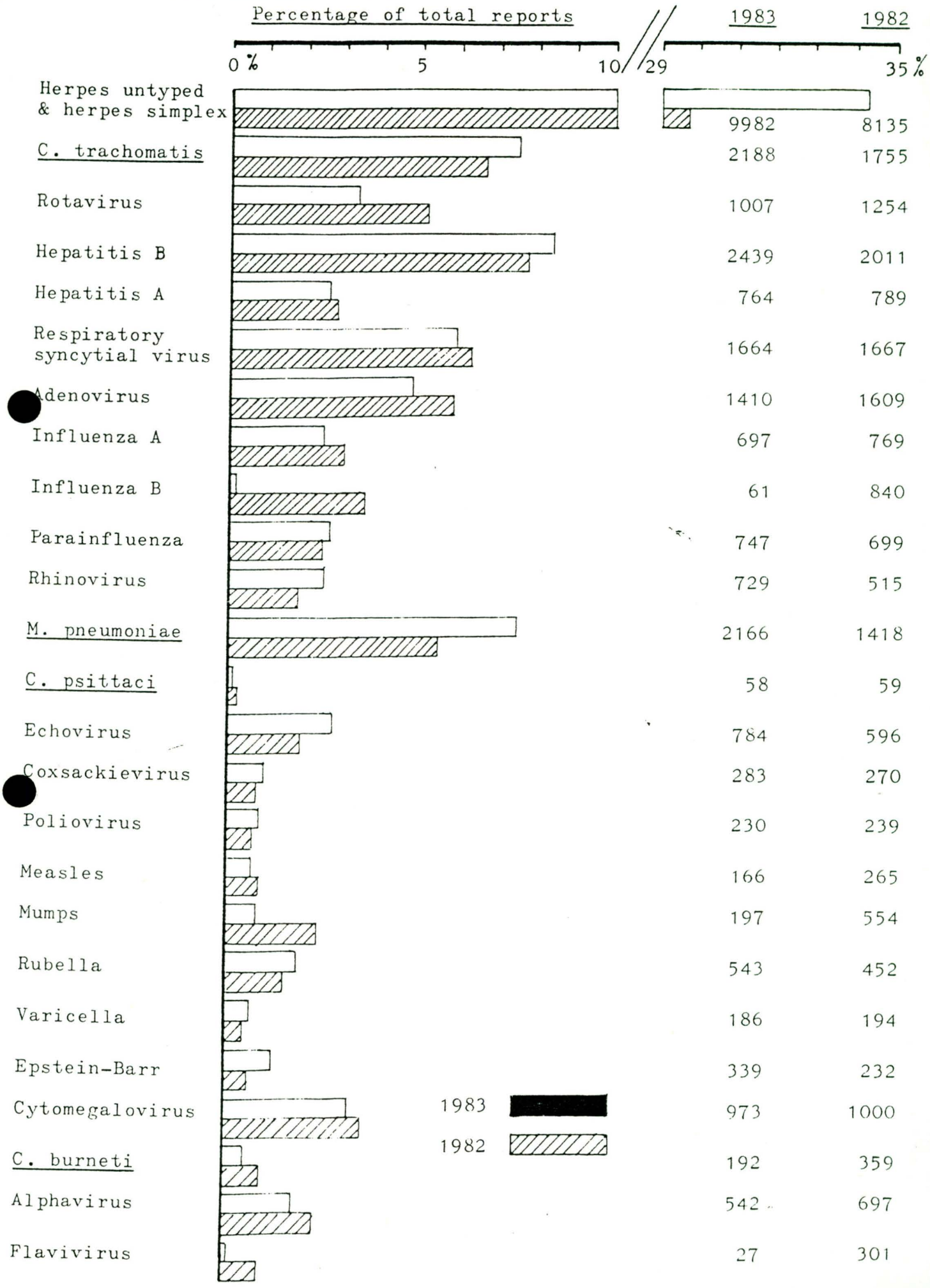
HERPES SIMPLEX VIRUS - The 9982 herpes virus reports consisted of 7.3% herpes virus untyped, 4.5% herpes virus type pending, 6.7% herpes simplex virus (HSV) untyped, 21.1% HSV type 1 (HSV-1) and 60.4% HSV type 2 (HSV-2). Of the HSV-1 reports, 43.7% were classified as skin/mucous membrane infections, 38.0% genital, 5.3% respiratory tract, 5.1% conjunctival, 1.9% urinary tract and 0.8% encephalitis. Similarly, the HSV-2 presentations constituted 12.9% skin/mucous membrane infections, 85.8% genital, with respiratory, conjunctival, urinary and encephalitis each constituting less than 0.1%. Only 0.4% of HSV-2 infections occurred in patients up to 15 years (5 cases in infants under six months) compared with 25.4% of HSV-1 infections (12 cases in infants under six months). The male:female ratios were 833:1251 for HSV-1 and 2861:3120 for HSV-2, infections. Sixty-three genital infections (6 of HSV-1; 48 of HSV-2 and 9 of HSV untyped) were recorded in pregnant women. Forty-one infections were diagnosed in renal transplant recipients (33 of HSV-1; 2 of HSV-2 and 6 of HSV untyped) and four in bone-marrow recipients (2 of HSV-1; 2 of HSV untyped).

CHLAMYDIA - Because of the referral of specimens from the State's Sexually Transmitted Diseases Clinic, the State Health Laboratory Service, Perth, reported 57.4% of the C. trachomatis infections. Overall the male:female ratio was 1009:1172; 19 infections occurred in infants below six months of age, 25 patients presented with conjunctivitis and 12 with respiratory disease. Apart from the 7 lymphogranuloma venereum reports, the remaining 58 chlamydia reports were of C. psittaci.

ROTAVIRUS - Rotavirus infections were diagnosed (64.5% by ELISA; 41.7% by electonmicroscopy) in patients of all age groups, although 93.4% were in children under five years, and 28.6% in infants aged less than six months. Peak virus activity (July - August) was one month later than previous years, with reports of infections extending well into spring (Fig. 2E).

HEPATITIS B - Of the 2439 HBsAg reports received, 40.1% were in patients aged 15-24 years, 44.3% aged 25-59 years and 0.68% (14 reports) in children less than one year. The male:female ratio was 1496:673. When ethnicity was indicated, 231 were recorded as Indochinese (180 Vietnamese) and 70 as Aborigines. Carrier status was identified in 82 cases with one hepatocellular carcinoma. Seventy-three cases were in

FIGURE 1. Frequency distribution of 29224 isolations and identifications reported to CDI - 1983.



homosexual males, 53 in abusers of intravenous (IV) drugs, 9 in prison inmates, 4 in patients in institutes for the mental retarded and 7 in persons who had been tattooed. Nine reports were in pregnant females, 3 in renal transplant recipients and 2 following needle-stick injuries.

HEPATITIS A - Clinical infections predominated in adults (70.4% of reports in patients aged more than 15 years) with a male:female ratio of 440:307. Ten cases were reported in homosexual males, 3 in mental retarded persons, 2 in Aborigines and 2 in pregnant females.

RESPIRATORY SYNCYTIAL VIRUS (RSV) - 91.1% of the reports were in children aged under five years, 46.2% in infants under six months of age and had a male:female ratio of 920:709. The seasonal activity of the virus is depicted in Fig. 2C.

ADENOVIRUS - Of the 1410 reports, 28.2% were of adenovirus untyped and 19.8% were of type pending. The predominant serotypes were type 2 (11.6%), type 1 (10.5%), type 5 (6.6%) and type 19 (5.9%). In addition to the 53 reports of adenovirus type 37, 12 isolates were recorded as a cross between types 19 and 37. Whereas types 2, 1 and 5 presented primarily with respiratory (61.3%; 62.8% and 49.4% respectively) and gastrointestinal (18.4%; 16.2% and 26.9%) symptoms in children, types 19 and 37 infections were prevalent in adults (97.8% in patients aged over 15 years with a male:female ratio of 110:36), occurring as ocular (31.1%) or genital (68.9%) infections. Other serotypes causing conjunctivitis were type 8 (85.7%) and type 3 (7.3%).

INFLUENZA A - The seasonal activity of the virus is shown in Fig. 2A. Both H_3N_2 and H_1N_1 subtypes reached moderate epidemic proportions. H_3N_2 isolates (81 resembling A/Philippines/2/82) were reported from laboratories in Sydney, Melbourne, Brisbane and Adelaide, whereas of the H_1N_1 isolates only one was reported from Sydney. Analysis of the H_1N_1 isolates by the OIC WHO Influenza Reference Centre, Melbourne, revealed a complex antigenic picture. All of the isolates tested, except two which were A/India/6263 like, resembled the protype A/Victoria/7/83 which in turn resembled A/Hong Kong/2/82, reacting with both A/England/333/80 and A/Dunedin/27/83 antisera, but not in reverse (see CDI 83/21 for HI titration profiles).

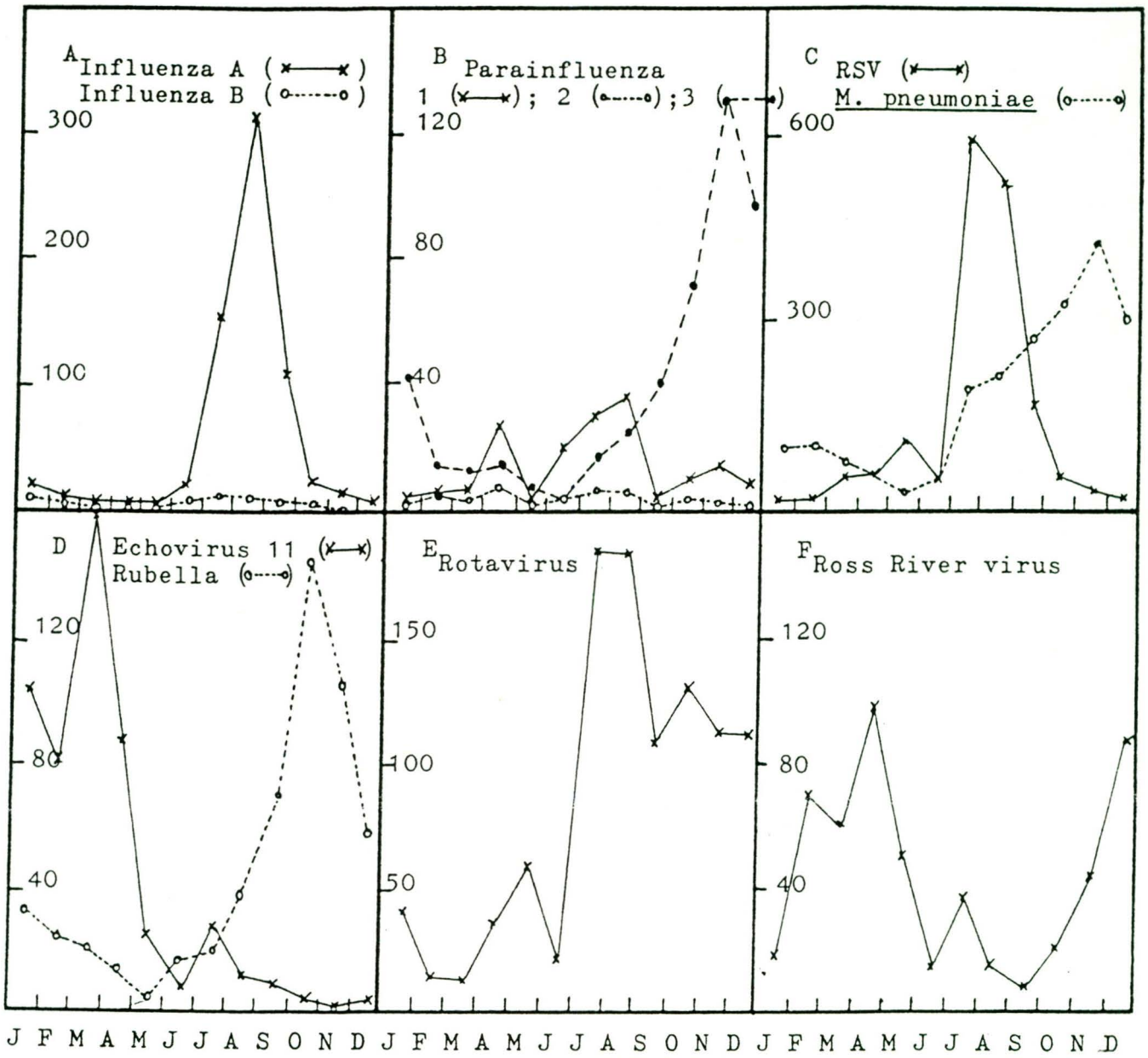
INFLUENZA B - Little influenza B activity was reported during 1983 (see Fig. 2A), with no reports from Brisbane and only one from Adelaide. 85.7% of infections were in patients older than 15 years.

PARAINFLUENZA - The seasonal activities of three parainfluenza types (1, 2 and 3) are shown in Fig. 2B. The reported incidences for type 1 (two peak activities in April and August) and type 3 (peak in November) mirrored those for 1982. Few type 2 were reported compared with an April peak in 1982. Four parainfluenza type 4 infections were diagnosed. Overall, infections were predominantly in young children (82.7% in patients under five years).

RHINOVIRUS - 76.5% of infections were in children under five years, with a male:female distribution of 407:307.

M. PNEUMONIAE. M. pneumoniae infections (95.9% diagnosed by complement fixation) were detected in all age groups (male:female ratio of 1046:1082), although 45.1% were in children aged 5-14 years. Peak disease activity occurred in

FIGURE 2. Seasonal activity of selected diseases (1 January - 31 December 1983)



spring. Serological evidence of infection was noted in three cases of Guillain - Barré syndrome.

ECHOVIRUS - Prevalent serotypes included echovirus type 11 (66.1%), type 9 (6.5%) and type 22 (4.5%). The epidemic of echovirus type 11 was recognized initially in Perth in June 1982, but it subsequently spread to all other States before subsiding in May 1983. 24.9% of infections occurred in infants below six months. Reported symptoms comprised meningitis/encephalitis (49.2%), fever/malaise (17.4%), gastroenterititis (12.7%) and respiratory disease (11.0%).

COXSACKIEVIRUS - Coxsackievirus type B2 (30.0%) and type B3 (25.4%) were the prevalent serotypes compared with type B5 (47.0%) in 1982. Infections occurred predominantly in young children, and virus activity peaked in Spring for type B2 and late summer for type B3.

POLIOVIRUS - 86.9% of the 230 isolations were cultured from infants less than one year of age.

MEASLES - 48.7% of reports were in children aged 5-14 years old. Fifteen cases (9.0%) presented with meningitis/encephalitis, and measles antibody was detected in four patients with subacute sclerosing panencephalitis.

MUMPS - 35.3% of the mumps diagnoses were in patients older than 15 years. Overall, the cases had a male:female ratio of 111:84, and 56 (28.4%) of patients presented with meningitis/encephalitis.

RUBELLA - The majority of reports emanated from the State Health Laboratory, Brisbane, (56.1%) in October. Nationally, 34.7% of cases were in patients aged 15-24 years and 47.8% in adults over 25 years, with a male:female ratio of 246:288. Ten reports were recorded as congenital infection (two designated congenital rubella syndrome (CRS)), ten were diagnosed in pregnant females and four in neonates whose mothers had confirmed rubella early in pregnancy.

VARICELLA - 67.7% of infections were in patients over 25 years. Eleven (5.9%) infections presented with respiratory disease, and six (3.2%) with meningitis/encephalitis. Varicella was also diagnosed in two immunosuppressed patients, two renal transplant recipients and two persons with Bell's palsy.

EPSTEIN-BARR VIRUS - The 339 reports had a male:female distribution of 187:147 with 64.5% of cases in patients older than 15 years.

CYTOMEGALOVIRUS - Reports were received from all participating laboratories, with 22.1% of infections in infants under six months, 34.1% in patients older than 25 years, and a male:female ratio of 470:473. Presentations comprised 21.7% respiratory, 11.0% urinary, 10.2% genital, 8.5% congenital, and 4.5% hepatic infections. Eighty-seven reports were of infections in renal transplant recipients, 12 in bone-marrow recipients and 13 in premature infants who received blood transfusions. Other isolations from infants included 17 prenatal infections, 14 premature births and one from a child with microcephaly. Four isolations were from pregnant females, three from breast milk and 12 from seminal fluid. Six patients presented with polyneuritis.

COXIELLA BURNETI - Infections were limited primarily to the eastern States; 54.6% Queensland, 29.2% New South Wales, 12.5% Victoria, 2.6% South Australia and 1.0% Western Australia. The reports exhibited a male:female distribution of 174:15, indicative of the occupational disease transmission with 95.9% in patients aged older than 15 years.

ALPHAVIRUS - Epidemic polyarthritis was widespread during the summer (Fig 2F), with 74.1% of cases resident in Queensland, 10.3% New South Wales, 6.4% Victoria, 5.3% Western Australia, 1.8% Northern Territory and 1.7% South Australia. The cases had a male:female distribution of 242:265, with 95.2% in patients older than 15 years.

FLAVIVIRUS - Of the 14 confirmed and eight clinical dengue cases reported, 12 were known to have been acquired overseas (Tahiti-3; Sri Lanka-3; Papua New Guinea-3; Solomon Islands-1). Three cases were possibly indigenous (one each from Rolleston, Ipswich and Kingaroy). Five Kunjin virus infections were diagnosed; one each from Croydon, Mosman, Weipa and two from unspecified locations in New South Wales.

POXVIRUS - Molluscum contagiosum comprised 11 of the 22 poxvirus reports.

OTHER VIRUS GROUPS - These groups incorporated numerous virus reports, each forming less than 1% of the total; picornavirus not typed (210 reports), enterovirus type pending (470); enterovirus type 68 (2); enterovirus type 71 (18); reovirus (7); coronavirus (12); astrovirus (12); small virus-like particles (64), paramyaxovirus (20); papillomavirus (1) and other rickettsia reports (R. tsutsugamushi) (4).

Copies of the 1983 tables are available from the Editor on request. These are computer printouts of the type and number of reports received from each laboratory, the patient's age and sex, the clinical presentation, the specimen tissue and month of collection, and the method of diagnosis.

(continued from page 1)

bulbar paralysis, which required ventilation. Although his encephalitis resolved within one week, he remained in intensive care for four weeks because the paralysis. He was finally discharged on 12 May. Paired sera showed seroconversion by HI against Kunjin virus (from less than 20 to 160) with positive IgM. In addition to the rarity of documented Kunjin encephalitis cases, the infection was unusual because of the prolonged and severe brain stem involvement.
